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Claims

10 1. In a linear drive device comprising a stator and
an armature able to be moved linearly in relation to the
stator and an electrodynamic linear direct drive system,
composed of two drivingly cooperating drive means in the
form of a coil means having a plurality of coaxially
15 sequentially arranged drive coils and of a magnet means
with one or more axially sequentially arranged permanent
magnets, of which the one is arranged on the stator and
the other is arranged on the armature and by which the
armature may be subjected to a first setting force, the
invention which resides in the provision of an
20 additionally present fluid power drive system adapted to
provide for fluid actuation of the armature for the
production of a second setting force independent from the
first setting force.

25 2. The linear drive device as set forth in claim 1,
comprising an elongated receiving space provided in the
stator and in which a drive output part of the armature is
arranged for linear movement, same being provided both
with one of the drive means of the linear direct drive
30 system and also having at least one axially aligned
actuating face for controlled fluid actuation.

35 3. The linear drive device as set forth in claim 2,
wherein the drive output part of the armature divides up
the receiving space of the stator in a sealing fashion

into two axially sequentially placed space parts, of which at least one is adapted for controlled fluid actuation.

4. The linear drive device as set forth in claim 3, wherein both such parts of the receiving space are adapted for controlled fluid actuation.

5. The linear drive device as set forth in claim 2, wherein the drive output part is piston-like in form.

6. The linear drive device as set forth in claim 2, comprising at least one force output member kinematically coupled with the force output member, which renders possible the output of force outside the receiving space.

7. The linear drive device as set forth in claim 6, wherein at least one force output member is rod-like in form and extends axially away from the drive output part, it extending outwardly through the terminal wall on the stator side of the receiving space.

8. The linear drive device as set forth in claim 1, wherein the peripheral wall of the receiving space has a longitudinally slot extending through it radially, such slot extending in the longitudinal direction on the receiving space, such slot furthermore having the force output member extending through it and being sealed in a fluid-tight manner on either side of the force output member by at least one sealing tape.

9. The linear drive device as set forth in claim 8, wherein the drive means on the stator side of the linear direct drive system is a component of a stator rod extending between the terminal portions of the receiving space and through the drive output part, the stator rod

being surrounded by the drive output part in a sliding manner and with a seal.

5 10. The linear drive device as set forth in claim 1,
wherein the armature possesses two drive output parts
coupled drivingly in the axial direction, of which one
possesses one of the drive means of the linear direct
drive system and of which the other possesses at least one
10 axially aligned actuating face for controlled fluid
actuation.

15 11. The linear drive device as set forth in claim 10,
wherein the two drive output parts are arranged in two
elongated separate receiving spaces.

20 12. The linear drive device as set forth in claim 11,
wherein the drive output part having the at least one
actuating face is piston-like in form and divides up its
receiving space in a sealing manner into two axially
sequentially placed space parts, of which at least one is
designed for controlled fluid actuation.

25 13. The linear drive device as set forth in claim 10,
wherein from the two drive output parts, to the same side,
respectively at least one force output member extends, the
force output members being kinematically coupled by a yoke
means outside the stator with the formation of a force
output unit.

30 14. The linear drive device as set forth in claim 13,
comprising a guide part kinematically coupled with the
force output unit and arranged to be guided in a guide
recess in the stator, such unit being more especially
tubular in form.